

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-10. (canceled)

11. (New) A method of monitoring expression of a target gene in an animal host cell, comprising the steps:

- (a) preparing a plasmid in which a polyphosphate kinase (PPK) gene is connected in-frame and downstream of the target gene;
- (b) introducing the plasmid into the animal host cell and selecting a transformant;
- (c) culturing the selected transformant, and inducing expression of the PPK gene;
- (d) quantifying accumulation of polyphosphate having a strand length equal to or less than 50 mer in the selected transformant and a cultured non-transformant by one-dimensional ^{31}P -NMR and/or ^1H -NMR imaging; and
- (e) comparing the accumulation of polyphosphate in the transformant to the non-transformant, wherein an increase in polyphosphate in the transformant compared to the non-transformant is indicative of the expression of the target gene.

12. (New) A method of monitoring expression of a target gene in a yeast host cell whose PHM4 gene is knocked out, comprising the steps:

- (a) preparing a plasmid in which a polyphosphate kinase (PPK) gene or PHM4 gene is connected in-frame and downstream of the target gene;
- (b) introducing the plasmid into the yeast host cell and selecting a transformant;
- (c) culturing the selected transformant, and inducing expression of the PPK gene or the PHM4 gene;
- (d) quantifying accumulation of polyphosphate having a strand length equal to or less than 50 mer in the selected transformant and a cultured non-transformant by one-dimensional ^{31}P -NMR and/or ^1H -NMR imaging; and
- (e) comparing the accumulation of polyphosphate in the transformant to the non-transformant, wherein an increase in polyphosphate in the transformant compared to the non-transformant is indicative of the expression of the target gene.

13. (New) A method for screening various types of agents that regulate the expression of a target gene in an animal host cell, comprising the steps:

- (a) preparing a plasmid in which a polyphosphate kinase (PPK) gene is connected in-frame and downstream of the target gene;
- (b) introducing the plasmid into the animal host cell and selecting a transformant;
- (c) culturing the selected transformant in the presence or absence of a test agent and inducing expression of the PPK gene;
- (d) quantifying accumulation of polyphosphate having a strand length equal to or less than 50 mer by one-dimensional ^{31}P -NMR and/or ^1H -NMR imaging; and
- (e) comparing the accumulation of polyphosphate in the presence of a test agent to the accumulation of polyphosphate in the absence of a test agent, wherein an

increase or decrease in accumulation of polyphosphate in the presence of a test agent is indicative of an agent that regulates the expression of the target gene.

14. (New) A method for screening various types of agents that regulate the expression of a target gene in a yeast host cell whose PHM4 gene is knocked out, comprising the steps:

- (a) preparing a plasmid in which a polyphosphate kinase (PPK) gene or PHM4 gene is connected in-frame and downstream of the target gene;
- (b) introducing the plasmid into the yeast host cell and selecting a transformant;
- (c) culturing the selected transformant in the presence or absence of a test agent and inducing expression of the PPK gene or the PHM4 gene;
- (d) quantifying accumulation of polyphosphate having a strand length equal to or less than 50 mer by one-dimensional ^{31}P -NMR and/or ^1H -NMR imaging; and
- (e) comparing the accumulation of polyphosphate in the presence of a test agent to the accumulation of polyphosphate in the absence of a test agent, wherein an increase or decrease in accumulation of polyphosphate in the presence of the test agent is indicative of an agent that regulates the expression of the target gene.